STIC Search Report
EIC 2100

STIC Database Tracking Number: 148518

TO:	From:
Cam-Linh T Nguyen **Location: RND 3C21** **Art Unit : 2161** **Wednesday, March 23, 2005** **Case Serial Number: 09/869182**	**David Holloway** **Location: EIC 2100** **RND 4B19** **Phone: 2-3528** **david.holloway@uspto.gov**

Search Notes

Dear Examiner Nguyen,

Attached please find your search results for above-referenced case.
Please contact me if you have any questions or would like a re-focused search.

David

```
Set     Items   Description
S1          7   AU=STERNEMANN K?
S2          7   IDPAT (sorted in duplicate/non-duplicate order)
S3          4   IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2004/Nov(Updated 050309)
         (c) 2005 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2005/Mar W01
         (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050317,UT=20050310
         (c) 2005 WIPO/Univentio
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200519
         (c) 2005  Thomson Derwent
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3/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013303635 **Image available**
WPI Acc No: 2000-475570/200041
XRPX Acc No: N00-354830

Data object processing method e.g. for accessing information via Internet, uses multi-dimensional information space with discrete storage locations containing information objects characterizing position of data object in data space

Patent Assignee: STERNEMANN K (STER-I)
Inventor: **STERNEMANN K**
Number of Countries: 020 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200038084	A2	20000629	WO 99EP10377	A	19991223	200041	B
DE 19962787	A1	20001019	DE 1062787	A	19991223	200053	
EP 1224579	A2	20020724	EP 99967981	A	19991223	200256	
			WO 99EP10377	A	19991223		

Priority Applications (No Type Date): DE 1060008 A 19981223
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200038084	A2	G	68	G06F-017/30	
	Designated States (National): JP US				
	Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
DE 19962787	A1			G06F-017/30	
EP 1224579	A2	G		G06F-017/30	Based on patent WO 200038084
	Designated States (Regional): DE FR GB IT				

Abstract (Basic): WO 200038084 A2

NOVELTY - The data object processing method uses a multi-dimensional information space (5) with at least 2 virtual dimensions, at least one of which contains a number of discrete storage locations for information objects containing at least one index specification characterizing the position of the data object in a data space and at least characteristic specification for a virtual dimension of the information space. A computer-controlled processor is used for identifying the information object in the information space, with processing of the data object prompted by at least one instruction set (8).

DETAILED DESCRIPTION - Also included are INDEPENDENT CLAIMS for the following:

(a) a data carrier for a data object processing method;

(b) a processor for data object processing

USE - The data object processing method can be used for data storage or retrieval, e.g for accessing information via the Internet.

ADVANTAGE - The separation of the data and information spaces allows flexible information representation.

DESCRIPTION OF DRAWING(S) - The figure shows a principle representation of a data object processing device.

Multi-dimensional information space (5)

Instruction set (8)

pp; 68 DwgNo 1/18

Title Terms: DATA; OBJECT; PROCESS; METHOD; ACCESS; INFORMATION; MULTI; DIMENSION; INFORMATION; SPACE; DISCRETE; STORAGE; LOCATE; CONTAIN; INFORMATION; OBJECT; CHARACTERISTIC; POSITION; DATA; OBJECT; DATA; SPACE
Derwent Class: T01
International Patent Class (Main): G06F-017/30
File Segment: EPI

```
Set     Items   Description
S1         36   AU=(STERNEMANN, K? OR STERNEMANN K?)
S2          3   S1 AND (DATACUBE? OR DATASPACE? OR DATA()SPACE? ? OR 3D OR
              THREED OR (3 OR THREE OR MULTI OR MULTIPLE)()(D OR DIMENSION?-
              ))
S3          1   RD (unique items)
File   2:INSPEC 1969-2005/Mar W2
         (c) 2005 Institution of Electrical Engineers
File   6:NTIS 1964-2005/Mar W2
         (c) 2005 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2005/Mar W2
         (c) 2005 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2005/Mar W2
         (c) 2005 Inst for Sci Info
File  35:Dissertation Abs Online 1861-2005/Feb
         (c) 2005 ProQuest Info&Learning
File  65:Inside Conferences 1993-2005/Mar W3
         (c) 2005 BLDSC all rts. reserv.
File 636:Gale Group Newsletter DB(TM) 1987-2005/Mar 23
         (c) 2005 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2005/Mar 22
         (c)2005 The Gale Group
File  94:JICST-EPlus 1985-2005/Feb W1
         (c)2005 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2005/Feb W2
         (c) 2005 FIZ TECHNIK
```

3/5/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6417078 INSPEC Abstract Number: C2000-01-7100-019

Title: Context sensitive provision and visualisation of enterprise information with a hypermedia based system

Author(s): **Sternemann, K.-H.** ; Zelm, M.
Author Affiliation: Inst. for Machine Tools & Production Sci., Karlsruhe Univ., Germany

Journal: Computers in Industry vol.40, no.2-3 p.173-84
Publisher: Elsevier,
Publication Date: Nov. 1999 Country of Publication: Netherlands
CODEN: CINUD4 ISSN: 0166-3615
SICI: 0166-3615(199911)40:2/3L.173:CSPV;1-1
Material Identity Number: C242-1999-008
U.S. Copyright Clearance Center Code: 0166-3615/99/$20.00
Document Number: S0166-3615(99)00022-6
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: Today's enterprises need distributed, modular information systems which interact with business processes, support decision making, are adaptable to decentralised organisation structures and comply with industry standards. Intelligent interaction of enterprise process and information supply offers a significant potential to improve the competitive advantage. Business process modelling with a context oriented provision and visualisation of information objects, enables the user to adapt his processes and to manage the relevant information needed. The paper describes the concept of a structured multidimensional space for information objects, the Collaborative Information Space developed in the DARIF/sup 2/ project. The Collaborative Information Space is structured into the dimensions of processes, information aspects and function domains and provides online information about the user relevant enterprise aspects needed for and produced by the enterprise processes. The content of the **three dimensions** follows the CIMOSA modelling methodology thereby enabling the Collaborative Information Space to be used in the CIMOSA enterprise engineering environment for identifying the information needed during the creation, and redesign of enterprise models. The Collaborative Information Space employs Internet/intranet technologies which allow to integrate information received from different server types and applications of heterogeneous systems. A multidimensional Web browser, the Structure Browser, has been introduced to query, navigate in and operate the information system. (8 Refs)

Subfile: C
Descriptors: business data processing; computer integrated manufacturing; data visualisation; hypermedia; Internet; intranets
Identifiers: enterprise information visualisation; hypermedia; information systems; business processes; decision making; industry standards; business process modelling; Collaborative Information Space; DARIF project; online information; CIMOSA; modelling methodology; Internet; intranet; Web browser; Structure Browser
Class Codes: C7100 (Business and administration); C6130M (Multimedia); C7210N (Information networks)

```
Set     Items   Description
S1      60738   3D OR MULTIDIMENSION? OR BIDIMENSION? OR (MULTI OR MULTIPLE
             OR PLURAL OR MANY OR SEVERAL OR TOW OR 2 THREE OR 3)(N)(D OR
            DIMENSION?) OR DATACUBE?
S2       3898   S1(5N)(DATASPACE? OR SPACE? OR RETRIEV? OR STORAGE? OR MEM-
            OR? OR MAP OR MAPPING?)
S3     144147   VECTOR? ? OR POINTER? OR METADATA? OR META()DATA
S4    5333483   CONTROL? OR INSTRUCTION? OR ADDRESS? OR PROPERT? OR LOCATI-
            ON?
S5    4165894   OBJECT? OR FILE? OR IMAGE? OR DATA OR INFORMATION? OR OO
S6       2963   S2 AND S5
S7         96   S3 AND S4 AND S6
S8         19   S3(2N)S4 AND S2
S9         56   (S7 OR S8) AND IC=G06F?
S10        36   S9 NOT AD=19981223:20011223
S11        33   S10 NOT AD=20011223:20031223
S12        33   S11 NOT AD=20031223:20050401
S13        33   IDPAT (sorted in duplicate/non-duplicate order)
S14        33   IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2004/Nov(Updated 050309)
         (c) 2005 JPO & JAPIO
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200519
         (c) 2005  Thomson Derwent
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14/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012383862 **Image available**
WPI Acc No: 1999-189969/199916
XRPX Acc No: N99-138999
Patterned sparse array indexing method for data **cache** address **generator in microprocessor**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: DOOLING D R; MORAN D E; MULLIN L M R
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5878424	A	19990302	US 96590648	A	19960124	199916	B

Priority Applications (No Type Date): US 96590648 A 19960124
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5878424	A		26	G06F-017/30	

Abstract (Basic): US 5878424 A

NOVELTY - The processing device reproduces the patterned sparse array based on the input index **vector** , shape indicator and symmetric indicator and the upper and lower bandwidth and the shape of the array stored in a storage device.

DETAILED DESCRIPTION - The non-zero elements of the array, upper and lower bandwidth and the shape of the array i.e. number of elements in each dimension of the array are stored in a storage device. An index **vector** comprising a skip value for skipping **data** elements and reproducing specific element in the array and a shape indicator are input to the processing device. Based on the shape indicator, the **storage** of **multi - dimensional** array is determined. An INDEPENDENT CLAIM is included for patterned sparse array indexing apparatus.

USE - For **data** cache **address** generator in microprocessor workstation used in various scientific and engineering fields.

ADVANTAGE - Requires less memory storage space by storing only non-zero elements in the array. Since the sparse array **address** calculation is predictable, the exact **address** may be prefetched to improve the **data** cache hit ratio and **addressing** efficiency. The array **address** is optimized regardless of the compiler used. CPU is not required for performing **address** translation.

DESCRIPTION OF DRAWING(S) - The figure shows the subarray to illustrate the access state of hardware.

pp; 26 DwgNo 16/16
Title Terms: PATTERN; ARRAY; INDEX; METHOD; **DATA** ; CACHE; **ADDRESS** ; GENERATOR; MICROPROCESSOR
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

14/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011945094 **Image available**
WPI Acc No: 1998-362004/199831
XRPX Acc No: N98-282656
Multi-dimensional representation generation system - includes meta - data **manager extracting source** data **with database connectivity engine**
Patent Assignee: ANWAR M S (ANWA-I)
Inventor: ANWAR M S
Number of Countries: 081 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5767854	A	19980616	US 96721899	A	19960927	199831	B
WO 9944164	A1	19990902	WO 98US3736	A	19980224	199943	N
AU 9865371	A	19990915	AU 9865371	A	19980224	200004	N
			WO 98US3736	A	19980224		

Priority Applications (No Type Date): US 96721899 A 19960927; WO 98US3736 A 19980224; AU 9865371 A 19980224
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5767854	A		53	G06F-003/14	
AU 9865371	A			G06F-017/60	Based on patent WO 9944164
WO 9944164	A1	E		G06F-017/60	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

Abstract (Basic): US 5767854 A

The generation system includes a **meta - data** manager extracting **data** from a **data** source. An IO broker coordinates IO between the system and the **data** sources. Import and export routines import and export **information** to and from **data** sources and the system and within the system. A database connectivity engine for communicating with a **data** source manager for processing of **data** source queries. A number of dynamically generated SQL routines to optimize runtime performance. A query estimate manager for estimating the time to retrieve desired **information** from a **data** source. Size and time keeping routines for computer resource allocation and timing. A **data** carrousel or **object controller** for generating and manipulating **data objects** . A selection exception agent. A spreadsheet **controller** for assigning spreadsheet functionality of one or more side of a n-gon. A schema synchronization manager for consolidating **data** schema and logical schema from different **data** sources. A threads manager. A macro and/or scripting language manager for executing multi-step user defined operations. an API set.

An analytic engine for performing routine analyses on an n-gonal representation of **data** . Manipulation routines for manipulating the **data objects** within the n-gonal representation. Filtering and/or exception routines for masking undesired **information** or highlighting desired **information** . A communication manager for communicating with other programs and systems. The user interface includes a window generator, a n-gon generator, a n-gonal solid generator, n-gon manipulation routines, user dialog boxes, user scroll bars, a tool bar and a relationship generator.

ADVANTAGE - Provides fast efficient and understandable retrieval, display, manipulation, analysis and **storage** of **multi - dimensional data** .

Dwg.1/39
Title Terms: MULTI; DIMENSION; REPRESENT; GENERATE; SYSTEM; META; **DATA** ; MANAGE; EXTRACT; SOURCE; **DATA** ; DATABASE; CONNECT; ENGINE
Derwent Class: T01
International Patent Class (Main): **G06F-003/14** ; **G06F-017/60**

14/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010654580 **Image available**
WPI Acc No: 1996-151534/199615
XRPX Acc No: N96-127289

Validity range evaluation system for artificial neural network - has linearly superimposed Gauss functions used to approximate training data distribution within training space with verification of superimposition value

Patent Assignee: SIEMENS AG (SIEI)
Inventor: HOEHFELD M

Number of Countries: 018 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9606400	A1	19960229	WO 95DE1090	A	19950817	199615	B
EP 777881	A1	19970611	EP 95928440	A	19950817	199728	
			WO 95DE1090	A	19950817		
EP 777881	B1	19980527	EP 95928440	A	19950817	199825	
			WO 95DE1090	A	19950817		
JP 10504667	W	19980506	WO 95DE1090	A	19950817	199828	
			JP 96507696	A	19950817		
DE 59502359	G	19980702	DE 502359	A	19950817	199832	
			EP 95928440	A	19950817		
			WO 95DE1090	A	19950817		

Priority Applications (No Type Date): DE 4430024 A 19940824
Cited Patents: 4.Jnl.Ref; WO 9412948
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9606400	A1	G	34	G06F-015/80	
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
EP 777881	A1	G		G06F-015/80	Based on patent WO 9606400
Designated States (Regional): DE FR GB					
EP 777881	B1	G		G06F-015/80	Based on patent WO 9606400
Designated States (Regional): DE FR GB					
JP 10504667	W		28	G06F-015/18	Based on patent WO 9606400
DE 59502359	G			G06F-015/80	Based on patent EP 777881
					Based on patent WO 9606400

Abstract (Basic): WO 9606400 A

The validity range evaluation system has the network parameters of the neural network represented by a set of training **data** within a **multi - dimensional** training **space** , with the distribution of the training **data** approximated by superimposing a selected number of multi-dimensional Gauss functions, for determining mean value **vectors** and covariance matrices.

The training **data** set is divided into partial **data** sets, associated with respective mean value **vectors** , with scaling of the covariances so that the linear superimposition reaches a given value for a selected section of the training **data** , the corresponding parts of the training **data** space verified as being within the validity range.

USE - For ind. process **control** .

Dwg.1/2

Title Terms: VALID; RANGE; EVALUATE; SYSTEM; ARTIFICIAL; NEURAL; NETWORK; LINEAR; SUPERIMPOSED; GAUSS; FUNCTION; APPROXIMATE; TRAINING; **DATA** ; DISTRIBUTE; TRAINING; SPACE; VERIFICATION; SUPERIMPOSED; VALUE
Derwent Class: T01
International Patent Class (Main): **G06F-015/18** ; **G06F-015/80**
File Segment: EPI

14/5/12 **(Item 12 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

008793579 **Image available**
WPI Acc No: 1991-297593/199141
Related WPI Acc No: 1995-052664
XRPX Acc No: N91-228019

Classifying system e.g. for accounting or auditing - use of microcomputer enables construction of multi - dimensional **matrix to hold and** retrieve data

Patent Assignee: SAMPSON W C (SAMP-I); OLAN M J (OLAN-I)
Inventor: OLAN M J; SAMPSON W C
Number of Countries: 009 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 450825	A	19911009	EP 91302560	A	19910325	199141	B
CA 2035953	A	19911006				199201	
US 5212639	A	19930518	US 90505061	A	19900405	199321	
EP 450825	A3	19930915	EP 91302560	A	19910325	199509	
CA 2035953	C	19950425	CA 2035953	A	19910207	199524	
EP 450825	B1	19971008	EP 91302560	A	19910325	199745	
DE 69127847	E	19971113	DE 627847	A	19910325	199751	
			EP 91302560	A	19910325		

Priority Applications (No Type Date): US 90505061 A 19900405
Cited Patents: NoSR.Pub; No-Citns.
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 450825	A				
Designated States (Regional): CH DE FR GB IT LI NL					
US 5212639	A		13	G06F-015/34	
EP 450825	B1	E	20	G06F-017/30	
Designated States (Regional): CH DE FR GB IT LI NL					
DE 69127847	E			G06F-017/30	Based on patent EP 450825
CA 2035953	C			G06F-015/20	

Abstract (Basic): EP 450825 A

The **data** entries are separate records of one or more items and two item indicators are generated for each. A mapping function is applied to each **data** entry to assign the item indicators. The latter are then sorted into an ascending numerical sequence and an n-dimensional sparse matrix is selected, where n is the number of items in each entry.

After all **data** entries have been processed, a search routine is used to review selected records.

USE/ADVANTAGE - Processor-based method of summarising **data** entries for efficient inspection and reporting. (11pp Dwg.No.4/8)

Title Terms: CLASSIFY; SYSTEM; ACCOUNT; AUDIT; MICROCOMPUTER; ENABLE; CONSTRUCTION; MULTI; DIMENSION; MATRIX; HOLD; RETRIEVAL; **DATA**
Derwent Class: T01
International Patent Class (Main): **G06F-015/20** ; **G06F-015/34** ; **G06F-017/30**
International Patent Class (Additional): **G06F-015/40**
File Segment: EPI

14/5/22 **(Item 22 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

004803555
WPI Acc No: 1986-306896/198647
XRPX Acc No: N86-229286
Two-dimensional virtual image **memory - provides multi-windowing with memory** addressed **symmetrically by video generator and interface via look-up table**
Patent Assignee: ODONELL C (ODON-I)
Inventor: OIDONNELL C
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 202166	A	19861120	EP 86401008	A	19860512	198647	B
FR 2582132	A	19861121				198701	
US 4815010	A	19890321	US 86862780	A	19860513	198914	
EP 202166	B	19901031				199044	
DE 3675253	G	19901206				199050	

Priority Applications (No Type Date): FR 857412 A 19850515
Cited Patents: FR 2535497
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 202166	A	F	13		
Designated States (Regional): DE GB					
EP 202166	B				
Designated States (Regional): DE GB					

Abstract (Basic): EP 202166 B
The memory (4) is organised into a number of elementary rectangular blocks. A lookup table (6) in random-access memory contains an equal number of **pointers** , each signifying the initial **address** of a block.

A video generator (10) delivers a signal corresp. to the content of an equal or smaller number of blocks for screen display of an **image** composed of that number in matrix array. An interface (12) affords access to the **image** memory and table in read or write mode.
USE/ADVANTAGE - With raster or bit-map display screen. Memory management is simplified by **addressing** symmetry. Modifiable lookup table allows multiple windows to be created and changed without physical movement of stored **image** . (13pp Dwg.No.2/6)
Title Terms: TWO; DIMENSION; VIRTUAL; **IMAGE** ; MEMORY; MULTI; MEMORY; **ADDRESS** ; SYMMETRICAL; VIDEO; GENERATOR; INTERFACE; UP; TABLE
Derwent Class: P85; T04
International Patent Class (Additional): **G06F-003/14** ; G09G-001/00; G11C-007/00
File Segment: EPI; EngPI

14/5/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004769228
WPI Acc No: 1986-272569/198642
XRPX Acc No: N86-203393

Address **calculation circuit for** multidimensional **parallel** memory - **computes spacing** vector **coordinates as difference between coordinates of points at ends of** vectors **and selected point in given access window**

Patent Assignee: AKAD WISSENSCHAFTEN DDR (DEAK)
Inventor: GOSSEL M; REBEL B

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DD 236820	A	19860618	DD 270283	A	19841205	198642 B

Priority Applications (No Type Date): DD 270283 A 19841205

Abstract (Basic): DD 236820 A

The circuit contains elements which compute spacing **vectors** starting from a selected grid point. The grid points in the window are at the ends of the **vectors** . The difference between the coordinate values of the grid points in the window and the selected point represents the coordinates of the spacing **vectors** .

The circuit also has elements to determine the **address** of the spacing **vectors** and the **address** of the selected grid point for isotropic **address** functions and for associative linking of these **addresses** .

USE/ADVANTAGE - Digital **image** processing. A large number of parallel access windows is provided. (-pp Dwg.No.1/1)

Title Terms: **ADDRESS** ; CALCULATE; CIRCUIT; MULTIDIMENSIONAL; PARALLEL; MEMORY; COMPUTATION; SPACE; **VECTOR** ; COORDINATE; DIFFER; COORDINATE; POINT; END; **VECTOR** ; SELECT; POINT; ACCESS; WINDOW
Derwent Class: T01
International Patent Class (Additional): **G06F-012/06** ; G11C-008/00
File Segment: EPI

14/5/25 (Item 25 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004068273
WPI Acc No: 1984-213814/198435
XRPX Acc No: N84-160104
Multidimensional **parallel** memory **for digital** data **processing - accessed by** addresses **derived from memory window coordinate changes**
Patent Assignee: AKAD WISSENSCHAFTEN DDR (DEAK)
Inventor: GOESSEL M; REBEL B
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DD 208499	A	19840502	DD 244274	A	19821026	198435	B
US 4570236	A	19860211	US 83545739	A	19831026	198609	

Priority Applications (No Type Date): DD 244274 A 19821026
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DD 208499	A		34		

Abstract (Basic): DD 208499 A
Residual **addresses** for each of N memory elements are derived by modulo-N arithmetic from **address** reference points by **address** computation circuits associated with each memory element. The **address** computation circuits use short word lengths and provide access via conflict-free single, two and **multidimensional** windows to the **storage** functions.
The **address** computation circuits require only the changes of the coordinates relative to the preceding windows and the characteristics of the windows. The computation of memory **addresses** is performed recursively.
USE/ADVANTAGES - Improved memory access is achieved for digital **image data** to be processed by high power processors. **Address** derivation is simplified to linear form.
0/6
Title Terms: MULTIDIMENSIONAL; PARALLEL; MEMORY; DIGITAL; **DATA** ; PROCESS; ACCESS; **ADDRESS** ; DERIVATIVE; MEMORY; WINDOW; COORDINATE; CHANGE
Derwent Class: T01; U14
International Patent Class (Additional): **G06F-009/28** ; **G06F-013/06** ; **G06F-015/34** ; G11C-007/00
File Segment: EP

```
Set     Items   Description
S1     167861   3D OR MULTIDIMENSION? OR BIDIMENSION? OR (MULTI OR MULTIPLE
              OR PLURAL OR MANY OR SEVERAL OR TOW OR 2 THREE OR 3)(N)(D OR
             DIMENSION?) OR DATACUBE?
S2       6694   S1(5N)(DATASPACE? OR SPACE? OR RETRIEV? OR STORAGE? OR MEM-
             OR? OR MAP OR MAPPING?)
S3     163855   VECTOR? ? OR POINTER? OR METADATA? OR META()DATA
S4    1389668   CONTROL? OR INSTRUCTION? OR ADDRESS? OR PROPERT? OR LOCATI-
             ON?
S5    1632840   OBJECT? OR FILE? OR OOPL OR OODB OR DATA OR INFORMATION? OR
              OO
S6        483   S2(10N)S3
S7         78   S3(10N)S4(10N)S6
S8         62   S3(2N)S4(10N)S2
S9         14   (S7 OR S8) AND IC=(G06F-017? OR G06F-007?)
File 348:EUROPEAN PATENTS 1978-2005/Mar W01
         (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050317,UT=20050310
         (c) 2005 WIPO/Univentio
```

```
Set     Items   Description
S1     586653   3D OR MULTIDIMENSION? OR BIDIMENSION? OR (MULTI OR MULTIPLE
              OR PLURAL OR MANY OR SEVERAL OR TOW OR 2 THREE OR 3)(N)(D OR
             DIMENSION?) OR DATACUBE?
S2      20913   S1(3N)(DATASPACE? OR SPACE? OR RETRIEV? OR STORAGE? OR MEM-
             OR? OR MAP OR MAPPING?)
S3     300717   VECTOR? ? OR POINTER? OR METADATA? OR META()DATA
S4   15797983   CONTROL? OR INSTRUCTION? OR ADDRESS? OR PROPERT? OR LOCATI-
             ON?
S5   25001769   OBJECT? OR FILE? OR OOPL OR OODB OR DATA OR INFORMATION? OR
              OO
S6       3990   S2 (10N) S5
S7          8   S3 (10N) S4 (10N) S6
S8         21   S3(2N)S4 (10N) S2
S9         29   S3(S)S4(S)S6
S10        47   S7 OR S8 OR S9
S11        32   RD (unique items)
S12        20   S11 NOT PY>1998
File 275:Gale Group Computer DB(TM) 1983-2005/Mar 23
         (c) 2005 The Gale Group
File  47:Gale Group Magazine DB(TM) 1959-2005/Mar 23
         (c) 2005 The Gale group
File  75:TGG Management Contents(R) 86-2005/Mar W1
         (c) 2005 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2005/Mar 23
         (c) 2005 The Gale Group
File  16:Gale Group PROMT(R) 1990-2005/Mar 23
         (c) 2005 The Gale Group
File 624:McGraw-Hill Publications 1985-2005/Mar 22
         (c) 2005 McGraw-Hill Co. Inc
File 484:Periodical Abs Plustext 1986-2005/Mar W2
         (c) 2005 ProQuest
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 141:Readers Guide 1983-2005/Dec
         (c) 2005 The HW Wilson Co
File 370:Science 1996-1999/Jul W3
         (c) 1999 AAAS
File 696:DIALOG Telecom. Newsletters 1995-2005/Mar 22
         (c) 2005 The Dialog Corp.
File 553:Wilson Bus. Abs. FullText 1982-2004/Dec
         (c) 2005 The HW Wilson Co
File 621:Gale Group New Prod.Annou.(R) 1985-2005/Mar 23
         (c) 2005 The Gale Group
File 674:Computer News Fulltext 1989-2005/Mar W3
         (c) 2005 IDG Communications
File  88:Gale Group Business A.R.T.S. 1976-2005/Mar 22
         (c) 2005 The Gale Group
File 369:New Scientist 1994-2005/Mar W1
         (c) 2005 Reed Business Information Ltd.
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 635:Business Dateline(R) 1985-2005/Mar 23
         (c) 2005 ProQuest Info&Learning
File  15:ABI/Inform(R) 1971-2005/Mar 23
         (c) 2005 ProQuest Info&Learning
File   9:Business & Industry(R) Jul/1994-2005/Mar 22
         (c) 2005  The Gale Group
File  13:BAMP 2005/Mar W2
         (c) 2005  The Gale Group
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 647:CMP  Computer Fulltext 1988-2005/Feb W4
         (c) 2005 CMP Media, LLC
File  98:General Sci Abs/Full-Text 1984-2004/Dec
         (c) 2005 The HW Wilson Co.
File 148:Gale Group Trade & Industry DB 1976-2005/Mar 22
         (c)2005 The Gale Group
```

12/3,K/1 **(Item 1 from file: 275)**
DIALOG(R)File 275:Gale Group Computer DB(TM)

01870774 SUPPLIER NUMBER: 17600094 (USE FORMAT 7 OR 9 FOR FULL TEXT)
OLAP spells success for users and developers. (online analytical processing) (includes related articles on OLAP vs. multidimensional databases, on the OLAP Report, on the 12 rules of OLAP, and on BrioQuery Designer 3.1) (Cover Story)
Youngworth, Paul
Data Based Advisor, v13, n11, p38(12)
Dec, 1995
DOCUMENT TYPE: Cover Story ISSN: 0740-5200 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 6718 LINE COUNT: 00545

...ABSTRACT: measures: dimensions are the ways users want to see data (by product, by customer, by **location** , etc.); and measures are numeric variables (units, dollars, etc.) OLAP **data** is stored in one of three ways: **multidimensional** databases, other **multidimensional storage** , or **metadata pointers** to a relational database. Vendors supply their own front ends to OLAP databases; they range...

12/3,K/15 **(Item 1 from file: 635)**
DIALOG(R)File 635:Business Dateline(R)

0649182 96-05855
Corporate profile for MicroStrategy
Houde, Lisa
Business Wire (San Francisco, CA, US) s1 p1
PUBL DATE: 951110
WORD COUNT: 702
DATELINE: Vienna, VA, US, South Atlantic

TEXT:

...Information Access Company and many others.

Published date: Nov. 10, 1995

Company name: MicroStrategy Inc.

Address : 8000 Towers Crescent Dr.
Vienna, Va. 22182

Telephone No.: 703/848-8600

Fax: 703/848...

...decision support object framework introducing intelligent agents and exception reporting alerts, develop a logical transparent **map** between **multidimensional** **data** views and relational tables, and deliver an off-the-shelf three-tier decision support environment...

...3.0(TM): DSS Architect is a design tool for defining a multidimensional model for **data** stored relationally in a **data** warehouse. DSS Architect creates a **mapping** between end-user **multidimensional** **objects** and the physical schema of the **data** warehouse by defining and maintaining **metadata** . This **metadata** allows organizations to dynamically link decision support applications to the warehouse. Using DSS Architect's...

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Set     Items   Description
S1     804975   3D OR MULTIDIMENSION? OR BIDIMENSION? OR (MULTI OR MULTIPLE
              OR PLURAL OR MANY OR SEVERAL OR TOW OR 2 THREE OR 3)(N)(D OR
             DIMENSION?) OR DATACUBE?
S2      36169   S1(5N)(DATASPACE? OR SPACE? OR RETRIEV? OR STORAGE? OR MEM-
             OR? OR MAP OR MAPPING?)
S3     714950   VECTOR? ? OR POINTER? OR METADATA? OR META()DATA
S4   12988952   CONTROL? OR INSTRUCTION? OR ADDRESS? OR PROPERT? OR LOCATI-
             ON?
S5   10776149   OBJECT? OR FILE? OR OOPL OR OODB OR DATA OR INFORMATION? OR
              OO
S6      18255   S2 AND S5
S7        499   S3 AND S4 AND S6
S8         67   S3(2N)S4 AND S2
S9        499   S2 AND S3 AND S4 AND S6
S10       533   S8 OR S9
S11       383   RD (unique items)
S12       209   S11 NOT PY>1998
S13       129   S9 AND S3(3N)(S4 OR S5)
S14       163   S8 OR S13
S15       110   RD (unique items)
S16        53   S15 NOT PY>1998
S17     30678   S1(3N)(DATASPACE? OR SPACE? OR RETRIEV? OR STORAGE? OR MEM-
             OR? OR MAP OR MAPPING)
S18        47   S16 AND S17
File   8:Ei Compendex(R) 1970-2005/Mar W2
         (c) 2005 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2005/Feb
         (c) 2005 ProQuest Info&Learning
File  65:Inside Conferences 1993-2005/Mar W3
         (c) 2005 BLDSC all rts. reserv.
File   2:INSPEC 1969-2005/Mar W2
         (c) 2005 Institution of Electrical Engineers
File  94:JICST-EPlus 1985-2005/Feb W1
         (c)2005 Japan Science and Tech Corp(JST)
File 111:TGG Natl.Newspaper Index(SM) 1979-2005/Mar 22
         (c) 2005 The Gale Group
File   6:NTIS 1964-2005/Mar W2
         (c) 2005 NTIS, Intl Cpyrght All Rights Res
File 144:Pascal 1973-2005/Mar W2
         (c) 2005 INIST/CNRS
File  34:SciSearch(R) Cited Ref Sci 1990-2005/Mar W2
         (c) 2005 Inst for Sci Info
File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Feb
         (c) 2005 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2005/Feb W2
         (c) 2005 FIZ TECHNIK
```

18/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04832727 E.I. No: EIP97093843264
Title: Minimization of memory access overhead for multidimensional DSP applications via multilevel partitioning and scheduling
Author: Wang, Jenny Qingyan; Sha, Edwin Hsing-Mean; Passos, Nelson Luiz
Corporate Source: Univ of Notre Dame, Notre Dame, IN, USA
Source: IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing v 44 n 9 Sep 1997. p 741-753
Publication Year: 1997
CODEN: ICSPE5 ISSN: 1057-7130
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9711W3
Abstract: Massive uniform nested loops are broadly used in multidimensional digital signal processing (DSP) applications. Due to the large amount of **data** handled by such applications, the optimization of **data** accesses by fully utilizing the local memory and minimizing communication overhead is important in order to improve the overall system performance. Most of the traditional partition strategies do not consider the effect of **data** access on the computational performance. In this paper, a multilevel partitioning method, based on a static **data** scheduling technique known as carrot-hole **data** scheduling, is proposed to **control** the **data** traffic between different levels of memory. Based on this **data** schedule, optimal partition **vector** , scheduling **vector** and the partition size are chosen in such a way to minimize communication overhead. Nonhomogeneous size partitions are the final result of the partition scheme which produces a significant performance improvement. Experiments show that by using this technique, local memory misses are significantly reduced as compared to results obtained from traditional methods. This method can be used in application specific DSP system design and compiler for DSP processors. (Author abstract) 38 Refs.
Descriptors: *Digital signal processing; **Data** storage equipment; **Data** communication systems; **Data** acquisition; Scheduling; Congestion **control** (communication); **Vectors**
Identifiers: Multilevel partitioning method; Memory access; Nested loops
Classification Codes:
716.1 (Information & Communication Theory); 722.1 (Data Storage, Equipment & Techniques); 723.2 (Data Processing); 921.1 (Algebra)
716 (Radar, Radio & TV Electronic Equipment); 722 (Computer Hardware); 723 (Computer Software); 921 (Applied Mathematics)
71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

18/5/10 (Item 10 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03784817 E.I. No: EIP94011188527
Title: Distributed systems reliability prediction for multidimensional space **of quality**
Author: Lobanov, E.V.
Source: Problemy Prochnosti i Nadezhnos'ti Mashin n 4 Jul-Aug 1993. p 61-68
Publication Year: 1993
CODEN: 000772
Language: Russian
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9403W1
Abstract: In terms of the theory for scarce outlays of random tensor fields simple formulae are derived for the distributed physical system reliability function. A case of **multidimensional** quality **space** is examined which is connected with coordinate space of arbitrary dimensionality. Scalar, vector and tensor fields of different physical character are considered as field vector components. Estimations are given for the intensity of random vector Gauss field outlines from the area of permissible states as a multidimensional parallelepiped. When deriving formulae, high reliability of a physical system is taken in consideration in succession. 10 Refs.
Descriptors: *Mechanical engineering; Assembly machines; Machine components; Mechanisms; Tensors; Distributed parameter **control** systems; Reliability; **Vectors** ; State space methods; Forecasting
Identifiers: Coordinate space
Classification Codes:
921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory)
608 (Mechanical Engineering, General); 921 (Applied Mathematics)
60 (MECHANICAL ENGINEERING); 92 (ENGINEERING MATHEMATICS)

18/5/11 (Item 11 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03692495 E.I. No: EIP93050805208
Title: Multilayer 3D memory based on a vectorial organic recording medium
Author: Hirsh, Jay; Savant, Gajendra; Jannson, Tomasz; Caulfield, H.J.
Corporate Source: Physical Optics Corp., Los Angeles, CA, USA
Conference Title: Organic and Biological Optoelectronics
Conference Location: Los Angeles, CA, USA Conference Date: 19930118-19930119
Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA, USA
E.I. Conference No.: 18613
Source: Proceedings of SPIE - The International Society for Optical Engineering v 1853 1993. Publ by Int Soc for Optical Engineering, Bellingham, WA, USA. p 29-38
Publication Year: 1993
CODEN: PSISDG ISSN: 0277-786X ISBN: 0-8194-1079-9
Language: English
Document Type: CA; (Conference Article) Treatment: X; (Experimental)
Journal Announcement: 9310W3
Abstract: The prospect of high density three-dimensional optical memory has encouraged development efforts. Research has focused on storing Bragg angle multiplexed hologram page storage and two-photon bit storage volumes. Physical Optics Corporation (POC) has investigated alternative multilayer 3 - **D memories** based on a vectorial organic recording medium. POC's approach incorporates polarization **vector** switching to independently **address** layers in the third dimension. POC's methodology has been to fully characterize the molecular and bulk **properties** of the vectorial organic recording medium, optimize material performance for memory applications including cache and integrated waveguide, and investigate suitable three-dimensional optical memory storage architectures. Here we report on a promising architecture which we have recently demonstrated. 7 refs.
Descriptors: *Optical **data** storage; Optical materials; Recording; Organic compounds; Holography; Light polarization; Molecules
Identifiers: Multilayer **3D memories** ; Vectorial recording
Classification Codes:
722.1 (Data Storage, Equipment & Techniques); 741.1 (Light/Optics); 804.1 (Organic Components)
722 (Computer Hardware); 741 (Optics & Optical Devices); 804 (Chemical Products)
72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 80 (CHEMICAL ENGINEERING)

18/5/13 (Item 13 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03377701 E.I. Monthly No: EI9202016174
Title: Visualizing structure in high-dimensional multivariate data .
Author: Young, F. W.; Rheingans, P.
Corporate Source: Univ of North Carolina, Chapel Hill, NC, USA
Source: IBM Journal of Research and Development v 35 n 1-2 Jan-Mar 1991 p 97-107
Publication Year: 1991
CODEN: IBMJAE ISSN: 0018-8646
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 9202
Abstract: We present and discuss several dynamic statistical graphics tools designed to help the **data** analyst visually discover and formulate hypotheses about the structure of multivariate **data** . All tools are based on the notion of the ' **data** space,' a representation of multivariate **data** as a high-dimensional (hD) space which has a dimension for each variable (column of the **data**) and a point for each case (row of the **data**). The **data** space is projected orthogonally onto the 'visual space,' a three-dimensional space which is seen and manipulated by the **data** analyst. The visual space has a point-like **object** for each case and can have a **vector** -like **object** for each variable. The three dimensions of the visual space are orthogonal linear combinations of the variables. We discuss the notion of a 'guided tour' of multivariate **data** space, and present guided-tour tools, including 1) 6D-rotation, a tool for dynamically rotating, in six-dimensional (6D) **space** , from one **3D** portion of the **data space** to another while displaying the dynamically changing projection in the visual space; 2) hD-residualization, a tool that determines, at the user's request, the largest invisible **3D space** - i.e., the largest **3D space** is orthogonal to the visual space. This space is used with the visual space so that 6D-rotation can occur between two new **3D** portions of the **data space** ; 3) projection-cueing, a group of three tools that use change in **object** brightness as a cue to show change in aspects of the projection of **objects** from the **data** space to the visual space during hD-rotation. In addition to these tools for touring high-dimensional multivariate space, we discuss tools for manipulating the **3D** visual **space** , and a tool for examining the relationship between two **data** spaces. Finally, we present a guided-tour implementation in which the user manipulates joysticks and sliders to dynamically and smoothly **control** the graphics tools in real time. A video supplement demonstrates the implementation. (Author abstract) 11 Refs.
Descriptors: *COMPUTER GRAPHICS--*Imaging Techniques; STATISTICAL METHODS ; IMAGE PROCESSING; MATHEMATICAL TECHNIQUES; VIDEO RECORDING
Identifiers: STATISTICAL GRAPHICS; MULTIVARIATE **DATA** ; HIGH-DIMENSIONAL **DATA**
Classification Codes:
723 (Computer Software); 741 (Optics & Optical Devices); 921 (Applied Mathematics); 922 (Statistical Methods); 716 (Radar, Radio & TV Electronic Equipment)
72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATIONS)

18/5/22 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

5848688 INSPEC Abstract Number: C9804-3350-004
Title: Representation of multidimensional mapping **by monodimensional neural networks**
Author(s): Carotenuto, R.; Franchina, L.; Coli, M.
Author Affiliation: Dipt. di Ingegneria Elettronica, Univ. di Roma, Italy
Conference Title: Proceedings of the Fourteenth International Conference Applied Informatics p.409-12
Editor(s): Hamza, M.H.
Publisher: IASTED-ACTA Press, Anaheim, CA, USA
Publication Date: 1996 Country of Publication: USA 459 pp.
ISBN: 0 88986 195 1 Material Identity Number: XX96-00489
Conference Title: Proceedings of IASTED International Conference on Applied Informatics
Conference Sponsor: IASTED
Conference Date: 20-22 Feb. 1996 Conference Location: Innsbruck, Austria
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: The problem of representing **multidimensional mappings** arises in many engineering fields. A novel iterative technique dealing with a class of n-dimensional mapping is proposed by the authors. Under some assumptions, the iterative technique "projects" the n-dimensional mapping over the coordinate planes and constructs n monodimensional **data vectors** representing the n monodimensional functions yielded by the projection. The proposed technique, belonging to memory-based techniques, greatly reduces the amount of memory required to store the representation of the mapping. The iterative technique is very well suited to work in conjunction with an associative memory structure as the monodimensional CMAC and in the presence of on-fly **data** . An application to dynamical system output prediction is presented. Moreover, a convergence discussion for the proposed algorithm is provided. Finally, computer simulations verify the stated theory. (11 Refs)
Subfile: C
Descriptors: cerebellar model arithmetic computers; content- **addressable** storage; convergence of numerical methods; digital simulation; intelligent **control** ; iterative methods; process **control**
Identifiers: monodimensional neural networks; **multidimensional mapping** representation; engineering; iterative technique; n-dimensional mapping; coordinate planes; monodimensional **data vectors** ; monodimensional functions; memory-based techniques; associative memory structure; dynamical system output prediction; convergence; computer simulations; algorithm
Class Codes: C3350 (Control in industrial production systems); C1230D (Neural nets); C1340N (Neurocontrol); C4130 (Interpolation and function approximation)

18/5/40 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

1432738 H.W. WILSON RECORD NUMBER: BAST97001313
Optimal data **scheduling for uniform multidimensional applications**
Wang, Qingyan; Passos, Nelson Luiz; Sha, Edwin Hsing-Mean
IEEE Transactions on Computers v. 45 (Dec. '96) p. 1439-44
DOCUMENT TYPE: Feature Article ISSN: 0018-9340 LANGUAGE: English
RECORD STATUS: Corrected or revised record

ABSTRACT: The authors propose a static **data** scheduling method, called carrot-hole **data** scheduling, for **controlling** the **data** traffic between different levels of **memory** in **multidimensional** applications. The method comprises a **data** scheduling phase and the selection of optimal partition and scheduling **vectors** . The carrot-hole **property** ensures that memory misses occur only to nodes along the partition boundaries. Experimental results show that, in comparison to results obtained from traditional methods, on-chip memory misses are significantly reduced using the proposed method.

DESCRIPTORS: Memory management (Computer science); Multidimensional signal processing;